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SECOND LANGUAGE LEARNERS: THEIR SPECIAL NEEDS IN CONTENT AREA READING

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Often teachers working with limited English Proficient (LEP), or non-English speaking individuals are at a loss as to how to help them succeed in the heavily content oriented secondary school. These students are more likely to encounter academic frustrations and retention; and as a result, they are more likely to drop out of school (Steinburg, Blinde, and Chan, 1984). Thus, teachers should consider developing strategies for effectively working with LEP students.

An area of prime concern is reading. Teachers working with second language learners need to know how to help the LEP student read more effectively; being aware of the difficulties associated with reading in a second language is a start. Buck (1975, p. 91) specifies three problem areas: "(1) the reader's input [what he brings to the reading process]; (2) the author's input [the cues from which the reader must select]; and (3) the reading process itself [the interaction of both the reader's input and the author's input]." Thus, readers use both external information, provided by the printed material, and internal information, based on personal experiences, and actual cognitive capabilities, to process the text.

Those previous experiences which the reader brings to bear on textual information are known as schemata. The reader depends on such background knowledge to adequately interpret the text; with second language learners, however, this may lead to reading problems. The first language of the student may differ dramatically in cultural content from the second language. Thus, reading which depicts the American view of the home, family, sex roles, or success may be baffling to students whose heritage is different from American life.

Background knowledge is also emphasized in the psycho-

linguistic model of reading. Readers use linguistic and schematic cues to sample from the text, predict meaning, test these predictions, and confirm their accuracy (Pimsleur & Quinn, 1971). For the LEP student, several sources of mistakes may confound this process, such as inadequate background knowledge, inappropriate processing strategies, or insufficient linguistic knowledge (Mackay, Barkman, & Jordan, 1979). Difficulties may arise not so much from limited proficiency in English but from a lack of the necessary schemata associated with the topic.

Therefore, the implications of schema theory for content area teachers at the secondary level are clear. "Students must have 'conceptual readiness' for each task; reading activities must either hook into the students' knowledge of the world, or the teacher must fill in the gaps before the task is begun" (Clarke and Silberstein, 1977, p. 137). This paper will provide insights on how to effectively fill in those gaps while teaching the content areas.

Content Area Strategies

Content area teachers should recognize that each subject requires different reading background and skills such as word recognition skills, basic comprehension skills, word meaning skills, reading study skills, interpretative skills, and critical reading skills (Karlin, 1973, p. 175).

In the area of mathematics, most LEP students at the secondary level already have a conceptual framework for the number system. Teachers then must provide new labels or vocabulary to hook onto the students' previous math experience. Knowledge of the specialized math vocabulary used in math is a must as more prose is introduced into texts, and students are exposed to increasingly complex word problems. To aid comprehension, teachers can simplify the prose, breaking it down into word--symbol relationships, for example, plus (+), minus (-), greater than ( ), etc. This would insure understanding of mathematical concepts and association of the graphic representation with the symbol. Once the teacher has modeled this process, students can follow suit and in groups break down prose and word problems into simpler units with numbers and symbols.

Another essential skill in the mathematics class is problem analysis. "Practice in how to read a problem, how to analyze its content, and how to follow a carefully planned

sequence toward its solution may be as necessary to success as computational practice in mathematics" (Thonis, 1970, p. 91). Simplification of textual information can be utilized here also. Teachers and students can analyze a problem for givens, unknowns, and options for solutions. The secondary math teacher thus builds a bridge between the LEP student's previous knowledge of numbers, math concepts, and computational skills to new labels and methods of problem solving.

In the science class, the required skills are similar to math. Again the student encounters a specialized vocabulary and a need for problem analysis. In order to aid the LEP student with the large amounts of sometimes technical reading material, a general reading strategy is suggested (Karlin, 1973, p. 178): (1) become aware of and expand the student's background knowledge; (2) preview material with the student prior to reading attempting to hook onto any previous experiences of class members; (3) explain the basic concepts which are often expressed by the specific vocabulary of the lesson; and (4) establish specific purposes to guide the students' reading. For long reading assignments, breaking the text into chunks is an alternative. Then the teacher can intersperse questions between sections in order to detect early misconceptions and miscues which may continue to affect later reading comprehension.

Visual aids further enhance reading comprehension. The teacher might provide actual demonstrations or bulletin board and poster displays depicting important vocabulary, concepts, and processes found in the reading selection. Also an advanced organizer such as a simple outline format with relevant subtopics or headings could be provided to the student prior to an assignment.

In the area of social sciences, applicability of schema theory is particularly rich. "Many of the concepts presented are completely alien to the reader because he has never seen, heard, or even thought of an economic or cultural group except his own" (Thonis, 1970, p. 94). Sensitivity is crucial, and the teacher must avoid potentially negative situations that could arise through stereotyping. For students as well as teachers, "most important is the realization that one way of life is not better, not superior, and not 'more right' than another" (Zintz, 1980, p. 399).

Social studies texts often contain abstract terminology

and vocabulary tied to other eras and regions. Teacher-made glossaries can help as well as pre-reading activities, such as the construction of vocabulary or conceptual collages and posters which can be displayed and explained by the students. In fact, for describing new concepts in the social studies class, teachers will find visual aids such as posters, displays, pictures, films, maps, and slides indispensable. Geography readings can take on new meaning when class members construct a map charting their birthplaces and previous travels and residences. In this manner, students become as cultural 'experts' for various regions. For the history class, organizational strategies such as timelines or flowcharts enable students to sequence events and discern cause and effect relationships. Various role play and simulation opportunities are also available to explain cultural content and events. For instance, classes covering early immigration to the United States could simulate the entry procedures at Ellis Island. In this manner, students build personal experience schema that develop into powerful reading comprehension tools.

For language arts, vocabulary and interpretative reading skills are again needed. Of prime importance is a capability to read beyond the literal meaning of words. The key to teaching vocabulary lies in providing the items in meaningful context and in developing the relationship between words. One helpful technique is to guide students in mapping their associations with a word, for example, house, and then comparing and contrasting the literal and figurative connotations. Students will begin to see the multiple meanings and the imagery potential of words and phrases.

Extension of vocabulary has been a need noted in each content area. To build vocabulary, an important consideration is whether to provide passive exercises or activities involving students, such as demonstrations and role play. Actual personal experiences seem to have a greater impact on comprehension and retention than drills or lists of words to define. The technique of webbing is a useful tool in vocabulary lessons enabling students to build a mental network for new words and concepts. Students call out associations with a word while the teacher forms a web diagram showing the interrelationships between the center word and its subcategories. Thus, all available schemata for one word are mapped by the class members. For example, leisure time might

elicit the following response categories which could be further expanded: recreational activities, sports, hobbies, weather related activities, sports equipment, sports clothing, uniforms, etc. Webs can be utilized as pre-reading activities to familiarize students with vocabulary in new contexts or used to build conceptual ideas in a post-reading phase. An English class might make a web on parts of a short story filling in specific examples for a selection just read. Webbing is an extremely adaptable activity.

Vocabulary grids provide another possibility for students to organize new vocabulary and see the interrelationships and subsets of words. Main topics and subheadings are provided for students, and they must fill in the relevant vocabulary items. This could be utilized for a selection dealing with taxonomies or as a post-reading activity to find new examples of content presented in the text. In a biology class, students might be provided with a vocabulary grid for the digestive process. Under the subheadings, they would fill in the organs involved, mechanical and chemical processes, etc. A health class studying nutrition and food groups could begin to list examples which fit into the basic categories after reading and discussing the assigned text. The possibilities for vocabulary extension are numerous, but the emphasis should be on keeping words in context, not divorcing them from meaning by giving students simple lists of words to memorize or define.

Literature can be a rich source of cultural and linguistic information, but LEP students are often baffled by the content if not prepared prior to reading selections. In a 1971 study conducted by Gatbonton and Tucker, the authors "suggest that inappropriate values, attitudes and judgments led to Filipino ESL students' misunderstanding of American literature. However, when teachers provided relevant cultural information, their students' reading comprehension improved" (Johnson, 1982, p. 504). Role play of values and attitudes expressed in stories can be a successful post-reading activity to assess understanding. Also, an open climate will allow pupils to discuss their confusion regarding the cultural differences noted in the text and will permit students to question cultural biases and stereotypes present in some literature.

A final area of concern is study and reference skills. These cross subject areas and are a vital need found in all

courses. Providing students with actual hands-on experience with reference materials and in the library is more valuable for the LEP student than merely being told, or reading about how to use the library or reference texts. Many of these students have very little experience with the use of reference materials in a library setting. A treasure hunt activity can be organized to acquaint students with locating various sources of information or using specific parts of texts such as the table of contents or index. Students could work in groups or pairs to find the necessary clues among the reference materials. In this manner, students are building background knowledge relating to reference texts enabling them to lmore successfully utilize these materials at a later date.

In general, addressing the special needs of LEP students includes strategies which are effective for regular or inefficient readers as well. The processing of textual information can be divided into three phases: pre-reading, during reading, and post reading. Teachers should preview material with special attention given to new or technical vocabulary and idioms. Further, outlining the objectives or goals for content and explaining these prior to reading are particularly effective for helping students process the text. Then, during reading, have the student refer to the questions for the assignment. Are they discovering the relevant information? Students may also note areas where there was a special problem with the text. During reading in class, the instructor could divide the material into manageable sections and guide students through these while assessing comprehension of each section.

Finally, in post-reading activities teachers should determine if the original reading purposes or objectives were achieved. At this stage, a variety of means to measure comprehension from class discussion to role playing can be utilized. However, if a student does not grasp the content, then the teacher must try to ascertain where the "short circuit" occurred in order to get the pupil back on the right path and to prevent further misunderstandings.

Concluding Statements

In conclusion, students use various skills in order to process textual information. Among these skills are linguistic knowledge of English and background knowledge or schema

relevant to the content. These combine in an interactive process of reading with students using syntactic and semantic knowledge to comprehend reading material. In the case of LEP students, linguistic and/or background knowledge may not be fully or equally developed which can lead to comprehension problems. The reader can utilize one knowledge to compensate for the other. For example, "strong semantic input will help the acquisition of the reading competence where syntactic control is weak. This suggests that the subject of reading materials should be of high interest and relate to the background of the learners" (Pimsleur & Quinn, 1971, p. 141).

Various strategies have been discussed with regard to the different content areas in the secondary school. Teachers need to become aware of their students' prior knowledge and level of language competence. As Carrell & Eisterhold (1983) suggest, teachers must ". . . strive for an optimum balance between the background knowledge presupposed by the texts our students read and the background our students possess," (p. 569). With a knowledge of students' prior experiences, instructors can then build bridges from familiar content to the new.

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